CLAIMS

We claim:

1. A method for a computer to display Domain Name System (DNS) information in active use for a domain name to a remote customer and to dynamically update the DNS information in response to a request from the customer, the computer storing the DNS information as a service to the customer in multiple DNS resource records (RRs) in a first of multiple zone data files, the dynamic updating using an update file distinct from the zone data files to identify updates to DNS information, comprising:

under control of a device operated by the customer,

sending a request to the computer for DNS information for the domain name, and receiving DNS information from the stored DNS RRs in response;

displaying the received DNS information to the customer;

receiving an indication from the customer of a change to displayed DNS information that corresponds to a first of the DNS RRs; and

instructing the computer to modify the DNS information for the first DNS RR to include the changed DNS information; and

under control of the computer,

before receiving the sent request for the DNS information, responding to requests from clients for DNS information about the domain name by sending copies of cached DNS information that was read from the stored DNS RRs;

receiving the sent request from the device, and sending a copy of the cached DNS information to the device in response;

receiving the instruction to modify the DNS information; and

in response to the instruction, updating the first DNS RR in the stored first zone data file to contain the changed DNS information and modifying the update file to indicate that the stored first zone data file has been updated,

so that before the DNS information in the first DNS RR is next sent to a client, the indication of the stored first zone data file in the modified update file will cause the changed DNS information for the first DNS RR in the updated stored first zone data file to replace the cached DNS information for the first DNS RR.

2.   The method of claim 1 wherein the computer is operated by a DNS registrar, and including, before the sending of the request for the DNS information for the domain name:

displaying to the customer information related to registering new domain names;

receiving an indication from the customer to register the domain name; and

in response to the indication,

creating the first zone data file to hold the DNS information for the domain name; and

storing the DNS RRs in the first zone data file on the computer.

3.   The method of claim 1 including periodically checking the update file to determine if any stored zone data files have been updated.

4.   The method of claim 1 wherein the DNS information from all of the stored zone data files is cached into memory, and including:

determining that all of the stored zone data files are to be reread; and

reading the DNS information from each of the stored zone data files, and replacing the previously cached DNS information with the read DNS information.

5.   The method of claim 1 wherein the copy of the DNS information sent to the device is a Web page.

6.   The method of claim 5 wherein the displayed Web page includes displayed selectable items representing the DNS information, and wherein the indicated

change to the displayed DNS information by the customer includes selection of a displayed selectable item corresponding to the DNS information to be changed.

7. The method of claim 1 wherein the DNS information for the domain name has associated access authorization information, and including receiving the access authorization information from the device before updating the first DNS RR in response to the instruction.

8. The method of claim 1 wherein the service provided to the customer is a hosting service.

9. The method of claim 1 wherein the service provided to the customer is connectivity service.

10. The method of claim 1 wherein the service provided to the customer is for the computer to act as a primary name server for a zone including the domain name.

11. The method of claim 1 including receiving payment from the customer for the updating of the first DNS RR.

12. A computer-implemented method for allowing a remote user to dynamically update stored Domain Name System (DNS) information that is in active use, the method comprising:

providing the remote user with a displayable copy of the DNS information;

receiving an indication from the remote user of a specified change to a portion of the DNS information; and

dynamically updating the portion of the actively used DNS information to reflect the specified change.

13. The method of claim 12 including:

before the providing of the displayable copy of the DNS information to the remote user, providing the DNS information to multiple clients in response to requests; and

after the dynamic updating of the portion of the actively used DNS information, providing the DNS information with the specified change to multiple clients in response to requests.

14.   The method of claim 12 wherein the portion of the DNS information is stored in a file, and wherein the dynamic updating of the portion includes:
modifying the file to reflect the specified change; and
modifying an update file to indicate the modified file.

15.   The method of claim 12 wherein the portion of the DNS information is stored in a database, and wherein the dynamic updating of the portion includes modifying the stored DNS information portion in the database to reflect the specified change.

16.   The method of claim 12 wherein the displayable copy is a Web page that when displayed to the user contains multiple selectable indications each associated with a portion of the DNS information, the displayed indications such that selection of an indication by the user indicates a change to be made to the DNS information portion that is associated with the selected indication.

17.   The method of claim 16 wherein each displayed selectable indication corresponds to a new value for the associated DNS information portion.

18.   The method of claim 12 including providing the remote user with a displayable copy of account information associated with the remote user.

19.   The method of claim 12 wherein the specified change is to modify previously stored DNS information.

20.   The method of claim 12 wherein the specified change is to delete previously stored DNS information.

21.   The method of claim 12 wherein the specified change is to add new DNS information.

22.   The method of claim 12 wherein the method is performed by a primary name server computer for the DNS information, and including sending the updated DNS information portion to each slave name server computer for the DNS information.

23.   The method of claim 12 wherein the stored DNS information includes DNS resource records.

24.   The method of claim 12 wherein the stored DNS information includes DNS configuration records.

25.   The method of claim 12 wherein the stored DNS information includes DNS whois records.

26.   The method of claim 12 wherein the stored DNS information includes DNS delegation records.

27.   The method of claim 12 wherein the stored DNS information is associated with a domain name.

28. The method of claim 27 including, before the providing of the displayable copy of the DNS information:

providing to the remote user information related to registering new domain names;

receiving an indication from the remote user to register the domain name; and

in response to the indication, storing the DNS information in a manner associated with the domain name.

29. The method of claim 27 including determining that the remote user is an administrative contact for the domain name before dynamically updating the DNS information portion.

30. The method of claim 27 including determining that the remote user is an owner of the domain name before dynamically updating the DNS information portion.

31. The method of claim 27 including, before dynamically updating the DNS information portion, determining that the remote user is one of a group of one or more users authorized to modify the DNS information for the domain name.

32. The method of claim 12 wherein the DNS information has associated access authorization information, and including receiving the access authorization information from the remote user before providing the displayable copy of the DNS information to the remote user.

33. The method of claim 12 wherein the dynamic updating is provided as a service to the remote user.

34. The method of claim 33 including receiving payment from the remote user for the providing of the service.

35. A computer-readable medium whose contents cause a computing device to allow a remote user to dynamically update stored Domain Name System (DNS) information that is in active use, by:

    providing the remote user with a displayable copy of the DNS information;

    receiving an indication from the remote user of a specified change to a portion of the DNS information; and

    dynamically updating the portion of the actively used DNS information to reflect the specified change.

36. The computer-readable medium of claim 35 wherein the contents further cause:

    before the providing of the displayable copy of the DNS information to the remote user, providing the DNS information to multiple clients in response to requests; and

    after the dynamic updating of the portion of the actively used DNS information, providing the DNS information with the specified change to multiple clients in response to requests.

37. The computer-readable medium of claim 35 wherein the portion of the DNS information is stored in a file, and wherein the dynamic updating of the portion includes:

    modifying the file to reflect the specified change; and

    modifying an update file to indicate the modified file.

38. The computer-readable medium of claim 35 wherein the portion of the DNS information is stored in a database, and wherein the dynamic updating of the

portion includes modifying the stored DNS information portion in the database to reflect the specified change.

39.   The computer-readable medium of claim 35 wherein the displayable copy is a Web page that when displayed to the user contains multiple selectable indications each associated with a portion of the DNS information, the displayed indications such that selection of an indication by the user indicates a change to be made to the DNS information portion that is associated with the selected indication.

40.   The computer-readable medium of claim 35 wherein the computer-readable medium is a memory of a computer.

41.   The computer-readable medium of claim 35 wherein the computer-readable medium is a data transmission medium transmitting a generated data signal containing the contents.

42.   A computing device for allowing a remote user to dynamically update stored Domain Name System (DNS) information that is in active use, comprising:

a DNS information dynamic provider component capable of providing the remote user with a displayable copy of the DNS information; and

a DNS information dynamic modifier component capable of receiving an indication from the remote user of a specified change to a portion of the DNS information, and of dynamically updating the portion of the actively used DNS information to reflect the specified change.

43.   The computing device of claim 42 wherein the DNS information dynamic modifier component and the DNS information dynamic provider component are executing in a memory of the computing device.

44. The computing device of claim 42 wherein the displayable copy is a Web page that when displayed contains the DNS information, and including a DNS information visual updater component capable of creating the Web page.

45. A computing device for allowing a remote user to dynamically update stored Domain Name System (DNS) information that is in active use, comprising:

means for providing the remote user with a displayable copy of the DNS information;

means for receiving an indication from the remote user of a specified change to a portion of the DNS information; and

means for dynamically updating the portion of the actively used DNS information to reflect the specified change.

46. A computer-implemented method for allowing a user of a remote device to dynamically update Domain Name System (DNS) information currently associated with a domain name, the method comprising:

repeatedly receiving requests from clients for DNS information associated with the domain name, and in response to each request providing the DNS information to the requesting client;

receiving a request from the remote device for DNS information;

determining that the user of the remote device is authorized to modify the DNS information associated with the domain name;

providing a Web page to the remote device that when displayed to the user contains at least one selectable indication associated with the DNS information, the displayed indications such that selection of an indication by the user represents changed DNS information;

receiving an indication from the remote device of a selection by the user of one of the selectable indications representing changed DNS information;

dynamically updating the DNS information so that it includes the changed DNS information; and

receiving a request from a client for DNS information associated with the domain name, and in response providing the updated DNS information to the requesting client.

47. The method of claim 46 wherein the DNS information is stored in a file, and wherein the dynamic updating includes:

modifying the stored file to include the changed DNS information; and

modifying an update file to indicate the modified file.

48. The method of claim 46 wherein the DNS information is stored in at least one database record, and wherein the dynamic updating includes modifying the database records to include the changed DNS information.

49. A computer-readable medium whose contents cause a computing device to allow a remote user to dynamically update over the Internet stored Domain Name System (DNS) information currently associated with a domain name, by:

repeatedly receiving requests from clients for DNS information associated with the domain name, and in response to each request providing the DNS information to the requesting client;

receiving a request from the user of the remote device over the Internet for DNS information;

determining that the user is authorized to modify the DNS information associated with the domain name;

presenting the DNS information to the user on the remote device over the Internet in a manner consistent with the presentation capabilities of the remote device;

receiving an indication from the user of updated DNS information for the domain name;

dynamically updating the DNS information to include the updated DNS information; and

receiving a request from a client for DNS information associated with the domain name, and in response providing the updated DNS information to the requesting client.

50.   The computer-readable medium of claim 49 wherein the presenting of the DNS information to the user includes providing a Web page to the remote device that when displayed contains at least one selectable indication associated with the DNS information such that selection of an indication by the user indicates a change to be made to the DNS information.

51.   A computing device for allowing a remote user to dynamically update stored Domain Name System (DNS) information currently associated with a domain name, comprising:

a DNS information dynamic provider component capable of repeatedly receiving requests from clients for DNS information associated with the domain name and providing the DNS information to the requesting clients, of receiving a request from the user of the remote device for DNS information, of determining that the user is authorized to modify the DNS information associated with the domain name, and of providing the DNS information to the user in a format consistent with the presentation capabilities of the remote device; and

a DNS information dynamic modifier component capable of receiving an indication from the user of updated DNS information for the domain name and dynamically updating the DNS information to include the updated DNS information, and wherein the DNS information dynamic provider component is additionally capable of, after the dynamic updating of the DNS information, receiving a request from a client for DNS information associated with the domain name, and in response providing the updated DNS information to the requesting client.

52.   The computing device of claim 51 wherein the DNS information provided to the user is a Web page that when displayed contains at least one selectable

indication associated with the DNS information such that selection of an indication by the user represents a change to be made to the DNS information.

53.   The computing device of claim 51 wherein the remote device includes a DNS information visual updater component capable of presenting the provided DNS information to the user on the remote device in a manner consistent with the presentation capabilities of the remote device.

54.   A method for a computer of a registrar to allow a user of a remote device to dynamically update current Domain Name System (DNS) information to include DNS information for a new domain name, comprising:

providing a Web page to the remote device that when displayed to the user contains a selectable indication for registering a new domain and at least one selectable indication representing DNS information for the new domain;

receiving an indication from the remote device of a selection by the user of the selectable indication for registering a specified new domain name and of at least one of the selection indications representing DNS information for the specified new domain name;

dynamically updating the current DNS information to include the represented DNS information for the specified new domain name; and

receiving a request from a client for DNS information associated with the specified new domain name, and in response providing the represented DNS information to the requesting client.

55.   The method of claim 54 wherein the current DNS information is maintained by the registrar, and including dynamically updating DNS information maintained by a computer for a higher-level domain to include a delegation record for the specified new domain name that indicates the computer of the registrar.

56. The method of claim 55 wherein the higher-level domain is a top-level domain.

57. The method of claim 54 including generating DNS information for the specified new domain name based on a service to be provided to the user by the registrar, and wherein the dynamic updating of the current DNS information includes the generated DNS information for the specified new domain name.

58. The method of claim 54 including, after the dynamic updating of the current DNS information to include the represented DNS information:

providing a Web page to the remote device that when displayed to the user contains at least one selectable indication associated with the DNS information for the specified new domain name, the displayed indications such that selection of an indication by the user represents changed DNS information;

receiving an indication from the remote device of a selection by the user of one of the selectable indications representing changed DNS information; and

dynamically updating the DNS information for the specified new domain name so that it includes the changed DNS information.

59. A computer-readable medium whose contents cause a computing device of a registrar to allow a user of a remote device to dynamically update over the Internet current Domain Name System (DNS) information to include DNS information for a new domain name, by:

presenting information over the Internet to the user on the remote device related to registering a new domain and specifying DNS information for the new domain;

receiving a request from the user of the remote device over the Internet to register a specified new domain name, the request including DNS information for the specified new domain name;

dynamically updating the current DNS information to include the included DNS information for the specified new domain name; and

receiving a request from a client for DNS information associated with the specified new domain name, and in response providing the included DNS information to the requesting client.

60.   The computer-readable medium of claim 59 wherein the current DNS information is maintained by the registrar, and including dynamically updating DNS information maintained by a computer for a higher-level domain to include a delegation record for the specified new domain name that indicates the computing device of the registrar.

61.   The computer-readable medium of claim 59 wherein the higher-level domain is a top-level domain.

62.   The computer-readable medium of claim 59 wherein the presenting of the information to the user on the remote device includes providing a Web page to the remote device that when displayed contains a selectable indication for registering a new domain, and wherein sending of the request by the user to register a specified new domain name is based on selecting of the displayed selectable indication by the user.

63.   The computer-readable medium of claim 59 wherein the contents further cause generating of DNS information for the specified new domain name based on a service to be provided to the user by the registrar, and wherein the dynamic updating of the current DNS information includes the generated DNS information for the specified new domain name.

64.   The computer-readable medium of claim 59 wherein the contents further cause, after the dynamic updating of the current DNS information to include the changed DNS information:

presenting the DNS information for the specified new domain name over the Internet to the user on the remote device;

receiving an indication from the user of updated DNS information for the specified new domain name; and

dynamically updating the DNS information for the specified new domain name to include the updated DNS information.

65.   A computing device of a registrar for allowing a user of a remote device to dynamically update current Domain Name System (DNS) information to include DNS information for a new domain name, comprising:

a first component capable of receiving a request from the user of the remote device to register a specified new domain name having specified associated DNS information, of dynamically updating the current DNS information to include the specified DNS information for the specified new domain name; and

a second component capable of presenting information to the user on the remote device related to registering a new domain and specifying DNS information for the new domain and of, after the dynamic updating of the current DNS information to include the specified DNS information, receiving a request from a client for DNS information associated with the specified new domain name and providing the specified DNS information to the requesting client in response.

66.   The computing device of claim 65 wherein the current DNS information is stored by the computing device, and including dynamically updating DNS information maintained by a computer for a higher-level domain to include a delegation record for the specified new domain name that indicates the computing device.

67.   The computing device of claim 65 wherein the presenting of the information to the user on the remote device includes providing a Web page to the remote device that when displayed contains a selectable indication for registering a new domain, and wherein sending of the request by the user to register a specified new domain name is based on selecting of the displayed selectable indication by the user.

68. The computing device of claim 65 wherein the first component further generates DNS information for the specified new domain name based on a service to be provided to the user by the registrar, and wherein the dynamic updating of the current DNS information includes the generated DNS information for the specified new domain name.

69. The computing device of claim 65 wherein the components are further capable of, after the dynamic updating of the current DNS information to include the specified DNS information:

presenting the DNS information for the specified new domain name to the user on the remote device;

receiving an indication from the user of updated DNS information for the specified new domain name; and

dynamically updating the DNS information for the specified new domain name to include the updated DNS information.